Given the less extensive experience concerning the estimates of proper
exposures with the IUE for late-type stars, as compared to early-type ones,
we would like to share an approximate exposure algorithm developed for
optimal signal-to-noise exposures of the Mg II resonance lines in early K
giant stars, even during periods of considerable spacecraft particle noise
backgrounds:

For Mg II emission, LWR high dispersion, large aperture, early K giants

$$T_{min} \cong 2.3 \left/ \left\{ \frac{N}{7500} + 10^{-0.4 \, (B - 1.24)} \right\} \right.$$

where,

$N = DN/hr$ (background noise) $\cong 10^{FPM}$

B = blue photometric magnitude, tested for $1 > B > 5$

This exposure guide can be applied to nearby classes of objects if
compensation for flux distribution in the UV and circumstellar or
interstellar reddening is made. This seems to include most evolved G,
K and M stars, as well as main sequence G and K stars. Mg II was typically
exposed to the 205 DN level (including background).

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